

6  
CLAIMS

What is claimed is:

1. A key blank comprising:

a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces cuttable to form key cuts that define a key combination surface;

characterized by at least one key combination element movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element, and wherein said at least one key combination element comprises a resilient arm disposed in a recess formed in said elongate shaft portion and capable of resiliently protruding outwards from the recess beyond both of said first and second side surfaces.

2. A key blank comprising:

a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces cuttable to form key cuts that define a key combination surface;

characterized by at least one key combination element pivotable about a pivot axis and movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element.

3. The key blank according to any of the preceding claims, wherein said at least one key combination element comprises a plurality of interface surfaces for urging at least one lock combination element.

4. The key blank according to any of the preceding claims, wherein said at least one key combination element comprises a pair of resilient arms extending from a common base which is pivotally mounted in an arcuate cutout extending from said recess, and wherein said recess is formed with grooves radially emanating from the arcuate cutout, wherein walls of said grooves define limits of angular motion of said resilient arms.

5. A key comprising:

a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces being formed with key cuts that define a key combination surface;

characterized by at least one key combination element movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element, and wherein said at least one key combination element comprises a resilient arm disposed in a recess formed in said elongate shaft portion and capable of resiliently protruding outwards from the recess beyond both of said first and second side surfaces.

6. A key comprising:

a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces being formed with key cuts that define a key combination surface;

characterized by at least one key combination element pivotable about a pivot axis and movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element.

7. The key according to claim 5 or claim 6, wherein said at least one key combination element comprises a plurality of interface surfaces for urging at least one lock combination element.

8. The key according to claim 5 or claim 6, wherein said at least one key combination element comprises a pair of resilient arms extending from a common base which is pivotally mounted in an arcuate cutout extending from said recess, and wherein said recess is formed with grooves radially emanating from the arcuate cutout, wherein walls of said grooves define limits of angular motion of said resilient arms.

9. A lock comprising:

a cylinder lock housing;  
a plug disposed in the cylinder lock housing, arranged for rotation relative thereto and having a keyway; and

a key comprising a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces being formed with key cuts that define a key combination surface;

characterized by at least one key combination element movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a

cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element, and wherein said at least one key combination element comprises a resilient arm disposed in a recess formed in said elongate shaft portion and capable of resiliently protruding outwards from the recess beyond both of said first and second side surfaces.

10. A lock comprising:

a cylinder lock housing;  
a plug disposed in the cylinder lock housing, arranged for rotation relative thereto and having a keyway; and

a key comprising a generally elongate shaft portion defining first and second generally flat oppositely directed side surfaces, joined by edge surfaces, at least one of said first and second side surfaces being formed with key cuts that define a key combination surface;

characterized by at least one key combination element pivotable about a pivot axis and movably disposed in the elongate shaft portion and adapted for touching a lock combination element disposed in a cylinder lock plug, wherein said at least one key combination element has inherent energy for applying an urging force against the lock combination element.

11. The lock according to claim 9 or claim 10, wherein said cylinder lock comprises plug pins (48) slidably disposed in said plug (46) and arranged to move against driver pins (50) disposed in bores formed in the cylinder lock housing (44), and said key combination element (26) is adapted for touching a lock combination element (54) disposed in said plug (46).

12. The lock according to any of claims 9-11, wherein which of the side surfaces (14, 16) that the key combination element (26) protrudes from is automatically determined by the position of the lock combination element (54).

13. The lock according to claim 10, wherein as the key (22) moves linearly through said keyway (42), the key combination element (26) moves radially as it pivots about said pivot axis (36).

14. The lock according to any of claims 9-13, comprising different oppositely-directed key combination elements (26).